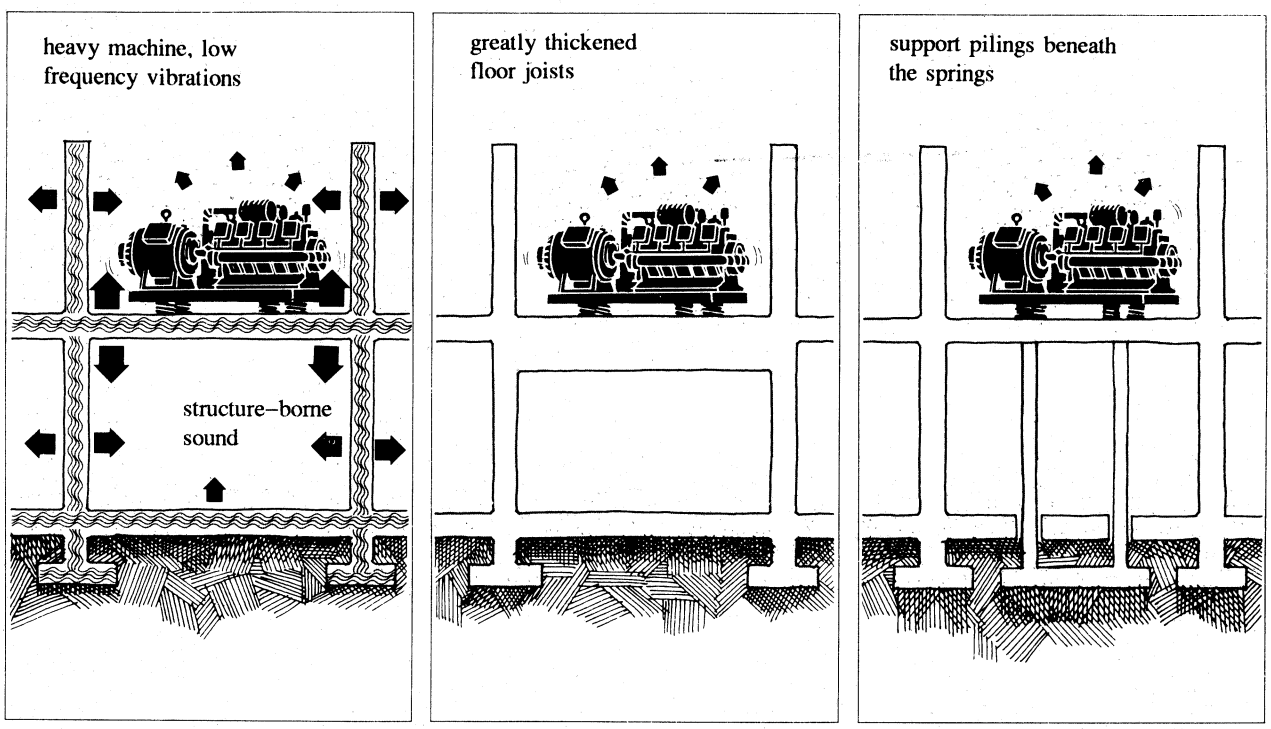
HEAVY MACHINES PRODUCING LOW FREQUENCY VIBRATIONS REQUIRE A RIGID FLOOR

Floor joists have a large number of resonances which make it difficult to vibration isolate a machine with elastic materials. A heavy machine producing low frequency vibrations is difficult to isolate unless the floor is very rigid. As shown below, an extra heavy (stiff) or pile–reinforced floor may be necessary.

Principle



Application to heavy machines in multi-story buildings

Example

A company is planning a building where a need for freedom from vibration and noise is great. It should also be possible to remove and interchange the machines.

Control Measure

The building is constructed with large concrete plates on a pillar and beam system. The concrete plates which are expected to carry heavy machines are strongly reinforced. If heavy machines are added later, the normal concrete plate is removed and replaced by a thicker one.